

Client's ref.: TSMC2003-0128
Our ref.: 0503-9981-USf/dwwang

What Is Claimed Is:

1 1. A pedestal supporting a substrate in a plasma chamber,
2 comprising:

3 an insulating base;
4 a conductive layer on the insulating base; and
5 a ceramic cover at least partially covering the conductive
6 layer, the conductive layer being covered when the
7 pedestal supports a substrate.

1 2. The pedestal in claim 1, wherein the conductive layer
2 further comprises a bottom portion with a bottom width and an
3 upper portion with an upper width, the upper width being less
4 than the bottom width and a diameter of the substrate.

1 3. The pedestal in claim 2, wherein the insulating base
2 further comprises a recess accommodating the bottom portion of
3 the conductive layer.

1 4. The pedestal in claim 1, wherein the ceramic cover
2 further overlies the insulating base.

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1 5. The pedestal in claim 1, wherein the ceramic cover
2 further comprises an opening exposing the conductive layer.

1 6. The pedestal in claim 2, wherein the ceramic cover
2 overlies the bottom portion of the conductive layer and further
3 comprises a hollow portion accommodating the upper portion of
4 the conductive layer.

1 7. The pedestal in claim 1, wherein the ceramic cover is
2 ring-shaped.

1 8. The pedestal in claim 1, wherein the insulating base
2 comprises silicon oxide.

1 9. The pedestal in claim 1, wherein the conductive layer
2 comprises titanium.

1 10. The pedestal in claim 1, wherein the ceramic cover
2 comprises aluminum oxide.

1 11. A pedestal supporting a substrate in a plasma chamber,
2 comprising:
3 an insulating base having a recess;

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4 a conductive layer embedded in the recess; and
5 a ceramic cover overlying the insulating base and partially
6 covering the conductive layer;
7 wherein the conductive layer is covered when the pedestal
8 supports a substrate.

1 12. The pedestal in claim 11, wherein the conductive layer
2 further comprises an upper portion, with a width less than the
3 diameter of the substrate, protruding from the recess.

1 13. The pedestal in claim 11, wherein the conductive layer
2 further comprises an upper portion, with a width less than the
3 diameter of the substrate and the width of the other portion of
4 the conductive layer, protruding from the recess.

1 14. The pedestal in claim 13, wherein the ceramic cover
2 further comprises a hollow portion accommodating the upper
3 portion of the conductive layer.

1 15. The pedestal in claim 13, wherein the ceramic cover
2 further comprises a hollow portion accommodating the upper

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3 portion of the conductive layer and exposing the narrower upper
4 portion of the conductive layer.

1 16. The pedestal in claim 11, wherein the ceramic cover
2 is ring-shaped.

1 17. The pedestal in claim 11, wherein the insulating base
2 comprises silicon oxide.

1 18. The pedestal in claim 11, wherein the conductive layer
2 comprises titanium.

1 19. The pedestal in claim 11, wherein the ceramic cover
2 comprises aluminum oxide.

1 20. A pedestal supporting a substrate in a plasma chamber,
2 comprising:

3 a silicon-oxide base having a recess;

4 a titanium layer having a bottom portion embedded in the

5 recess, and an upper portion, narrower than the

6 bottom portion and the substrate, protruding from the

7 recess; and

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8 a ring-shaped ceramic cover, having a hollow portion
9 accommodating the upper portion of the titanium layer
10 therein, overlying the insulating base and a portion
11 of the bottom portion of the titanium layer;
12 wherein the conductive layer is covered when the pedestal
13 supports the substrate.

1 21. The method as claimed in claim 20, wherein the hollow
2 portion of the ceramic cover further exposes the upper portion
3 of the titanium layer.

1 22. The pedestal in claim 20, wherein the ceramic cover
2 comprises aluminum oxide.